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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/065,796	11/20/2002	Andrew A. Adamczyk	201-0145	6560

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EXAMINER

LAWRENCE JR, FRANK M

ART UNIT PAPER NUMBER

1724

DATE MAILED: 09/03/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.		Applicant(s)	
	10/065,796		ADAMCZYK ET AL.	
	Examiner		Art Unit	
	Frank M. Lawrence		1724	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-25 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____. | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

1. Claim 14 is objected to because of the following informalities: In line 3 of claim 14, "that" should be inserted after "ratio" to clarify the meaning and conform to the wording of claim

1. Appropriate correction is required.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-25 are rejected under 35 U.S.C. 102(b) as being anticipated by Hertl et al. (5,417,947).

4. Hertl et al. ('947) teach a system and method for removing hydrocarbons from a vehicle exhaust, comprising contacting the exhaust with a hydrophilic molecular sieve having a 2.5-4 angstrom pore diameter (col. 3, lines 3-11) to remove water, followed by contacting with a hydrocarbon removing material downstream of the water removing material. The hydrocarbon removing material can be a Y-type faujasite zeolite having a Si/Al ratio of greater than 5 (col. 4, lines 5-11). The pores of the water removing material are small enough to prevent molecules larger than water from being adsorbed (col. 1, lines 60-66), meeting the limitations of claims 9 and 22. The hydrocarbon adsorbent adsorbs hydrocarbons at engine start-up and desorbs at engine exhaust temperatures (col. 3, lines 51-59). Although the temperature at which hydrocarbon desorption occurs is only indicated as above 150° C, it is submitted that one skilled

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in the art would recognize from the teaching of Hertl et al. that the engine exhaust temperature would dictate what type of zeolite is used, and that desorption at lower than the temperature at which the hydrocarbon conversion catalyst operates should be avoided so that unconverted hydrocarbons are not released to the atmosphere.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hertl et al. ('947) in view of Minami et al. (5,140,811).

7. Hertl et al. ('947) disclose all of the limitations of the claims except that less than 50% of the low molecular weight hydrocarbons desorb from the hydrocarbon-removing material at a temperature of about 300° C, although a temperature of greater than 150° C for hydrocarbon desorption is disclosed as discussed in paragraph 4 above. Minami et al. ('811) disclose a hydrocarbon trap for IC engine exhaust, comprising a zeolite adsorbent (such as Y-type) designed to adsorb hydrocarbons up to a temperature up to 250 or 300° C then desorbs the hydrocarbons at above those temperatures to be converted in a downstream catalyst (col. 2, lines 19-26; col. 4, line 48 to col. 5, line 10). It would have been obvious to one having ordinary skill in the art at the time of the invention to modify the zeolite used in Hertl et al. ('947) so that it does not desorb hydrocarbons until a sufficient catalysis temperature is reached, e.g. 300-350° C in automobile exhaust.

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Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The additional references listed on the attached PTO-892 form disclose exhaust purification systems using adsorbents.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Frank M. Lawrence whose telephone number is 703-305-0585. The examiner can normally be reached on Mon-Thurs 7:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Blaine Copenheaver can be reached on 703-308-1261. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0651.

Frank M. Lawrence
Primary Examiner
Art Unit 1724

Frank Lawrence
8-28-03

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